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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/738,375	12/17/2003	Trey Allen W. Roessig III	AIMI-01994US0	7268

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EXAMINER	
CHANG, DANIEL D	

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/738,375	W. ROESSIG ET AL.	
	Examiner	Art Unit	
	Daniel D. Chang	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20-25 and 32* is/are allowed.

6)☒ Claim(s) *1,2,4,5,13-15,19,26,27,30 and 31* is/are rejected.

7)☒ Claim(s) *3, 6-12, 16-18, 28, and 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Acknowledgement

Receipt is acknowledged of the Amendment filed July 25, 2006.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 13-15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kong (US 5,859,548).

Regarding claim 1, Kong discloses, in Fig. 5B, an actuation circuit having at least a first output (/D since /OUT is connected to /D and it is output of CRDL circuit 10; col. 8, lines 62+) and a second output (OUT'), and a first input (D), comprising:

a current sink (TR2') coupled to the first output (/D), the current sink enabled when a current is applied to said first input (when D is low); and

a decision switch (TR1') coupled to the current sink and enabling a current path from the first input (D) to the second output (OUT') only when a voltage present at said first output (OUT') reaches a threshold (low threshold).

Regarding claim 2, Kong discloses, in Fig. 5B, that the first output is coupled to a first force pad (inherent pad connected to /D. Any node coupled to /D in the integrated circuit is broadly interpreted as a pad) and the second output is coupled to a second force pad (inherent

pad connected to OUT'. Any node coupled to OUT' in the integrated circuit is broadly interpreted as a pad).

Regarding claim 4, Kong discloses, in Fig. 5B, that the decision switch is a transistor (TR1').

Regarding claim 5, Kong discloses, in Fig. 5B, that wherein the transistor (TR1') has a gate, source and drain, and the gate is coupled to sense the first output (/D).

Regarding claim 13, Kong discloses, in Fig. 5B, an apparatus comprising a control circuit (TR1', TR2') having a first output (/D since /OUT is connected to /D and it is output of CRDL circuit 10; col. 8, lines 62+) and a second output (OUT'), the control circuit, comprising:

an input (D) having a current coupled thereto:

a decision transistor (TR1') coupled to the first output and enabling a current path (from D to OUT') to the second output; and

a current sink (TR2') coupled to the first output.

Regarding the recitation that "a micromechanical mirror structure positioned adjacent to a first and a second force pads" has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Regarding claim 14, Kong discloses, in Fig. 5B, that the current sink (TR2') is enabled by said current at said input (D).

Regarding claim 15, Kong discloses, in Fig. 5B, that said current sink (TR2') is enabled by a voltage at the second output (without voltage at OUT', TR2' would not be enabled).

Regarding claim 19, Kong discloses, in Fig. 5B, that the current path is between a first voltage (VDD) greater than zero and a second voltage greater than zero (VDD/2; see col. 9, lines 8+).

Claims 26, 27, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Rovell (US 4,247,791).

Regarding claim 26, Rovell discloses, in Fig. 2, an actuation circuit, comprising:

a first input (BIT or /BIT) and a second input (/BIT or BIT);

a first output (14) and a second output (16);

a first current sink (Q8) coupled to the first output and enabled (when BIT goes low; see first t3 in Fig. 3) by a signal at said first input;

a second current sink (Q10) coupled to the second output and enabled (when /BIT goes low; see second t3 in Fig. 3) by a signal at said second input;

a first current steering switch (Q4) enabled by said first output; and

a second current steering switch (Q3) enabled by said second output.

Regarding claim 27, Rovell discloses, in Fig. 2, that wherein each said output is provided at the drain electrodes of a drain coupled pair of an NMOS high voltage transistor (compare to other low voltage transistors, Q7-Q10 are high voltage transistors) and a PMOS high voltage transistor (Q7, Q8; Q9, Q10).

Regarding claim 30, Rovell discloses, in Fig. 2, that wherein each said current steering switch is a transistor (Q3, Q4).

Regarding claim 31, Rovell discloses, in Fig. 2, that wherein said current steering transistor is a PMOS transistor (Q3, Q4; col. 2, lines 66+).

Response to Arguments

Applicant's arguments filed July 25, 2006 have been fully considered but they are not persuasive.

Regarding independent claims 1 and 13, Applicant argued, on page 8, that "D and /D are both considered inputs for the purpose of the circuit description in the cited reference" and "since /D is not an output of an actuation circuit, Kong does not teach or suggest 'a current sink coupled to the first output' as claimed." However, since /OUT is connected to /D and it is output of CRDL circuit 10 (see col. 8, lines 62+), /D is considered as a first output, and therefore TR2' is considered as "a current sink coupled to the first output".

Regarding independent claim 26, Applicant argued, on pages 9 and 10, that "these sinks are not enabled by a signal at the respective inputs - Q8 is not enabled by the BIT line, and Q10 is not enabled by the /BIT line." Applicant further argued that, "the strobe signal is thus required to enable the current sink action. Thus, applicant submits that the reference does not teach or suggest "a first current sink . . . enabled by a signal at said first input" nor does it teach or suggest "a second current sink . . . enabled by a signal at said second input." However, even if the strobe signal is required to enable the current sink action, Q8 and Q10 still sink current when Q6 is turned on by strobe signal. Therefore, each of Q8 and Q10 transistors can be interpreted as

a current sink. Q8 is enabled (turns on) when BIT goes low or /BIT goes high. Therefore, the first current sink Q8 is enabled by a signal at said first input (BIT or /BIT). Also, Q10 is enabled (turns on) when BIT goes high or /BIT goes low. Therefore, the second current sink Q10 is enabled by a signal at said second input (/BIT or BIT).

Therefore, rejection for claims 1, 2, 4, 5, 13-15, 19, 26, 27, 30, and 31 is maintained.

Applicant's arguments with respect to claims 20-25 have been fully considered and are persuasive. The rejection of claims 20-25 has been withdrawn.

Allowable Subject Matter

Claims 20-25 and 32 is allowable over the prior art.

Claims 3, 6-12, 16-18, 28, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (571) 272-1801. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel D. Chang
Primary Examiner
Art Unit 2819

dc

DANIEL CHANG
PRIMARY EXAMINER